



DLA-96-P50094

# **COST OF REPORTS OF DISCREPANCY UPDATE**

MAY 1996

19960702 068

DEFENSE QUALITY INSPECTOR 4

FOR  
**DEFENSE LOGISTICS AGENCY**  
**DEPARTMENT OF DEFENSE**  
Executive Director, Procurement  
8725 JOHN J. KINGMAN ROAD, SUITE 2533  
FORT BELVOIR, VA 22060-6221

*INSIGHT THROUGH ANALYSIS*

**DORO**

**DLA-96-P50094**

# **COST OF REPORTS OF DISCREPANCY UPDATE**

**May 1996**

**John S. McKinney**

## **DEPARTMENT OF DEFENSE DEFENSE LOGISTICS AGENCY Operations Research Office**

**c/o Defense Supply Center Richmond  
8000 Jefferson Davis Highway  
Richmond, VA 23297-5082**

**O'Hare International Airport  
P.O. Box 66422  
Chicago, IL 60666-0422**



**DEFENSE LOGISTICS AGENCY**  
**OPERATIONS RESEARCH OFFICE**  
**DORO**  
c/o DEFENSE SUPPLY CENTER RICHMOND  
RICHMOND, VIRGINIA 23297-5082

## **FOREWORD**

This report updates the 1989 DLA Operations Research Office and Economic Analysis Office study, DLA-90-P90136, Administrative and Holding Costs Resulting from Processing Reports of Discrepancy (RODs). RODs are generated when shipping or packaging problems arise within the DoD supply system. This report summarizes the methodology used to calculate costs associated with RODs that are attributable to contractor fault and presents the results in tabular form for use by supply centers. The results can aid in determining the true cost to the government of doing business with individual contractors by including expected ROD costs as a bid evaluation factor. More detailed descriptions and calculations can be found in the technical manual titled Cost of Processing Reports of Discrepancy: Administrative Costs and Holding Costs (September 1995).

We wish to thank the Defense Supply Center Richmond (DSCR) and the Defense Depot Richmond, Virginia (DDRV) for their support in this effort. Experts at these locations and the other DLA supply centers provided information vital to the completion of this project.

*Paul E. Grover*  
for HAROLD BANKIRER  
Colonel, U.S. Army  
Chief, DLA Operations Research Office

**This page is intentionally left blank**

## EXECUTIVE SUMMARY

This study updates the 1989 report entitled Administrative and Holding Costs Resulting from Processing Reports of Discrepancy (DLA-90-P90136). The Packard Commission recommended that the government conduct its purchasing operations in a fashion similar to that of the private sector by emphasizing quality and schedule in addition to price. The Defense Logistics Agency (DLA) is quantifying the costs associated with poor contractor performance and incorporating these costs into the bid evaluation process. In support of this effort, the DLA Operations Research Office (DORO) has been tasked with evaluating the costs associated with discrepancies in packaging and shipping that are attributable to contractor fault.

This study examines two elements of the cost of discrepant items; the administrative cost and the holding cost. The administrative cost arises from actions normally performed at various supply and staff levels (internal and external to DLA) when a discrepant item or shipment is discovered and a Report of Discrepancy (ROD) is initiated, processed, investigated and resolved. The holding cost results from the storage and handling of discrepant items, and from the lost opportunity of investment for money "tied-up" in these items.

The administrative cost (in dollars) and holding cost (expressed as a percentage of contract value) were calculated by Federal Supply Class and by individual supply center. The average administrative cost for a packaging ROD is \$124, and the average holding cost is 3.1 percent of the contract value. The average administrative cost for a shipping ROD is \$149, and the average holding cost is 2.2 percent of the contract value. Summary results for these costs can be found in Appendices A and B. Detailed development of costs can be found in the a September 1995 technical report entitled Cost of Reports of Discrepancy Update.

During the five years since the original ROD study was published, changes in ROD processing have been relatively minor. Electronic transmission and storage of ROD information have increased the speed with which ROD data travels within DLA, especially in the initial stages. However, paper copies of RODs still exist, and the types of personnel involved in ROD initiation and resolution are nearly the same as in 1990. One major change in this update is the discovery that a much smaller percentage of RODs are passed to the Defense Contract Management Command (DCMC) for resolution than was originally believed. Therefore, expected DCMC costs are much lower in this update than in the original ROD study.

Although this study is comprehensive, it is not all-inclusive. As many costs as possible were quantified. However, there are many other costs associated with RODs that could not easily be quantified, such as maintenance during equipment downtime and readiness degradation.

In the comparison of two or more bids for a particular item, the contracting officer at a center may calculate "evaluation factors" for each potential contractor based on the contractor's ROD history and contract data. A "true" cost to the government of doing business with each contractor can be better assessed using these factors. A more prudent choice- a more cost-effective decision- can then be made. The cost estimates developed in this report can be used as "evaluation factors" at the supply centers.

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
	FOREWORD	iii
	EXECUTIVE SUMMARY	v
	TABLE OF CONTENTS	vii
	LIST OF TABLES	ix
1	INTRODUCTION	1-1
1.1	Background	1-1
1.2	Problem Statement	1-2
1.3	Objectives	1-2
1.4	Scope	1-2
2	METHODOLOGY	2-1
2.1	Administrative Costs	2-1
2.2	Holding Costs	2-2
2.3	Data Sources	2-2
2.4	Analysis	2-2
2.4.1	Material Flow	2-2
2.4.2	Cost Calculations	2-3
2.4.3	Administrative Cost Determination	2-4
2.4.4	Holding Cost Determination	2-6
3	RESULTS	3-1
4	CONCLUSIONS	4-1
5	RECOMMENDATIONS	5-1
	APPENDIX A: Packaging ROD Evaluation Factors	A-1
	APPENDIX B: Shipping ROD Evaluation Factors	B-1

**This page is intentionally left blank**



## LIST OF TABLES

<b><u>Number</u></b>	<b><u>Title</u></b>	<b><u>Page</u></b>
2-1	Total Holding Cost Rates	2-6
3-1	Packaging ROD Individual Center Results	3-1
3-2	Shipping ROD Individual Center Results	3-2

## **SECTION 1**

### **INTRODUCTION**

#### **1.1 BACKGROUND**

This report is an update of the 1989 DORO study, DLA-90-P90136, Administrative and Holding Costs Resulting from Processing Reports of Discrepancy. The Packard Commission, in an April 1986 report entitled "Quest for Excellence", recommended that the government adopt commercial buying practices in lieu of simply awarding a contract to the lowest bidder. In addressing this finding, the Air Force and some Defense Logistics Agency (DLA) activities have experimented with a "blue ribbon" contractor program. For example, the Defense Electronics Supply Center (DESC), Defense Construction Supply Center (DCSC) and Defense Industrial Supply Center (DISC) have awarded contracts with up to a 20 percent price differential above the low bidder to contractors with a proven track record of timely deliveries and consistently conforming material. DORO Project DLA-89-81012, Administrative and Holding Costs Resulting from Processing Reports of Nonconforming Supplies (July 1989), quantified the average total additional cost for the receipt of poor quality items and the resulting complaint processing. At that time there was no analytically-based estimate of the cost (to either the ultimate user or to the DLA system) of the initiation, processing and resolution of a Report of Discrepancy (ROD). RODs are generated for nonconforming shipments and packaging, rather than the actual items. The cost results from this update can be used as part of the bid evaluation process.

#### **1.2 PROBLEM STATEMENT**

There are several facets to measuring a contractor's quality of performance: the cost of late deliveries, the cost of an actual item that is nonconforming, and the cost of a ROD. The bid evaluation process should include a ROD cost factor based on the contractor's ROD history. The administration required at various levels within DLA and other Department of Defense (DoD) agencies for ROD initiation, processing, investigation, and resolution can be measured in terms of dollars. Also measurable is the cost of holding an item in stock and the cost of money it "locks up" in the suspended material until ROD resolution occurs. The cost of a ROD becomes the sum of the administrative and supply holding costs incurred between ROD initiation and ROD resolution. Both costs are identified and quantified in this report.

#### **1.3 OBJECTIVES**

The objective of this study is to update the estimate of the costs associated with the receipt of an item having a shipping or packaging problem. These cost estimates (or evaluation factors) can then be used as part of the bid evaluation process. Specifically, this study determines the cost of the ROD reporting process from its inception (when a problem is discovered) and its processing through various DoD, DLA and individual service activities. Actions for all activities that normally play a part in the process are quantified in monetary terms. The average holding cost

per ROD resulting from the receipt of a discrepant item is also calculated. These costs are identified by Federal Supply Class (FSC) and the managing DLA Supply Center.

A ROD is the device utilized by service activities and other DoD agencies (including depots) to report any problems or discrepancies other than nonconforming material. Submission of this report occurs at all echelons; the ultimate user, the retail supply activity, or a wholesale supply source, depending upon what level detects the discrepant item or shipment. Specifically, this analysis concentrates on any report transaction that involves an SF 364, the actual Report of Discrepancy (ROD) form.

In this study, the single cost generated for a ROD, encompassing both holding and administrative components, may be interpreted as the minimum cost for a ROD. The process analyzed in this report encompasses only the essential information transfers, investigative efforts, and resolution actions for a typical ROD. This study measures the cost for all actions that should occur, not necessarily all actions that could occur.

#### **1.4                      SCOPE**

This study focuses on the entire reporting process when a problem in a shipment occurs, attributable to contractor fault, at any one of the four supply levels. The discovery of a discrepancy and the initiation of a report may arise from a customer (ultimate user of the item), a retail supply activity (in direct support of customers), a service wholesale supply activity (or service maintenance facility), or a DoD depot. Separate analyses were done for each of these four ROD initiation levels for both packaging and shipping RODs.

The DLA supply centers analyzed include DCSC, DESC, DGSC, DISC, and DPSC. The Defense Personnel Support Center (DPSC) is regarded as being comprised of two subcenters for this study - Medical (DPSC (Med)) and Clothing and Textile (DPSC (C&T)). The subsistence mission of DPSC and the entire DLA fuel management mission at the Defense Fuel Supply Center are excluded.

In this study, any shipment or individual supply item having a discrepancy for which a ROD is submitted is termed a "discrepant item." In this report, discrepant items do not include those supplies which would cause the initiation of a quality deficiency report or any other form of quality complaint. These quality discrepancies have been addressed in DORO Project DLA-89-81012, March 1989, and updated in DORO Project DLA-94-P40158, October 1994.

Two major classifications of RODs will be addressed in this study:

1. Packaging ROD. This type of report is initiated for items or shipments that are improperly preserved, packed, marked, or unitized. Packing discrepancies encompass specific problem areas such as incorrect or poor blocking, bracing, cushioning, weathering, reinforcing or application of various protective measures.

2. Shipping ROD. Shipping RODs consist of several general subcategories. The "Condition or Damage" subcategory of shipping RODs are those processed for damaged freight, pilferage, vandalism, theft, expired shelf-life, or inappropriate condition code. The "Documentation" subcategory of shipping discrepancies encompasses missing, illegible, mutilated, incomplete or improper documentation. The "Misdirected" subcategory of discrepancies simply includes situations in which an organization received a shipment that should have been provided to some other unit, or supply source, or other customer activity. The "Wrong Item" subcategory of discrepancies includes many different, but related, problems. These include unidentifiable items, unacceptable substitutes for requested items, unit-of-issue incompatibility, mixed stock and other similar discrepancies. The "Overage" subcategory reflects situations in which the number of items actually received by an activity for a given request is greater than the quantity requisitioned or demanded for a particular transaction. The "Shortage" subcategory reflects situations in which the quantity received is less than the number requested for a given supply transaction.

Two major classifications of cost will be addressed in this study:

1. Administrative costs. Associated with the processing of a ROD, these include the costs of discovering the discrepancy as well as investigation, coordination with the contractor, response to disposition instructions for material, financial management, and the general flow of formal and informal information. Scenarios involving each of the four supply levels and each of the six DLA supply centers are analyzed.

2. Holding costs. Two types are present in the ROD resolution process, both associated with material awaiting disposition instructions. The first is the cost of lost opportunity for investment. The second cost is called the "pure" supply cost.

a. Lost Opportunity Cost. During the period of time a ROD is being investigated - the time between complaint initiation and ROD complaint closure - discrepant supplies may be "frozen." (An exception is the "overage" subcategory of shipping RODs.) Since an item which has a ROD issued against it is in a suspense mode, the funds invested in this particular item are also "tied up". The financial cost of tying up these funds (sometimes called an opportunity cost) can be calculated from the amount of time that the ROD is in effect, and the value of the items suspended.

b. Pure Supply Cost. This is the other type of cost that is associated with the holding of physical inventory within a storage facility. The suspended material occupies valuable floor or bin space within a depot or retail supply activity. Material handling equipment is utilized to segregate suspended stocks. Facilities and other material support efforts are also occasionally needed. These costs, representing other than pure personnel salaries (which are included as administrative costs), are computed separately in this project. The sum total of all expenses incurred with the physical presence of discrepant stocks in a storage facility over time is the pure supply cost.

RODs are resolved regardless of the type of discrepancy, the responsibility for the discrepancy, the originator level, or the involved supply center. The responsibility can be placed at various

storage or other activities, whether DoD or not. However, only RODs which were ultimately determined to be the fault of the supply contractor were analyzed for this study.

## SECTION 2

### METHODOLOGY

#### 2.1 ADMINISTRATIVE COSTS

We measured the expected cost of a ROD to a complaint initiator, captured the cost of ROD processing for each supply center, and determined the expected cost for participation of activities within the Defense Contract Management Command (DCMC). The total expected administrative cost of a ROD will be the sum of these three individual expected costs. These administrative costs are then combined with the holding costs to calculate the final Evaluation Factors (EF). An example of how the results can be applied in the bid evaluation process can be found in Section 3, Results.

The first portion of the method for computing the administrative cost identifies the material flow of items managed by DLA, purchased from the contractor, and provided to the customer. The responsible organizations in the supply system are identified and a relative frequency (or probability) is assigned to each of the branches in a diagram representing flow of material. This diagram can be found in Part I of the technical report (Figures 2 and 3).

An individual cost analysis is conducted at each of the supply activities that plays a part in the storage and distribution of DLA managed items (DoD depots, service maintenance facilities, supporting supply activities, and ultimate users). This addresses the administrative costs incurred if a discrepant item is received by a given activity and if a ROD is subsequently initiated by this activity.

For each supply center activity which plays a part in the processing and resolution of a ROD, we measured the degree of participation (via probabilities). These center activities include the focal point, quality assurance, comptroller, contracting and production, and supply operations. The activity costs multiplied by the participation probabilities produce the expected value for each center's participation. A cost is developed for each of the six supply centers for both types of RODs.

The expected cost for DCMC elements is also measured using actual costs (if involvement occurs) and probabilities (reflecting relative participation). This cost is captured by FSC.

In all cases, individual activity costs are based on the time to perform identified tasks, the rank or wage grade of the person performing the tasks, the hourly pay rate (with leave, benefits, fatigue and other factors applied), and the relative frequency of the tasks performed. Costs are based on Fiscal Year 1995 pay scales. An expected cost of the total of all administrative actions applicable to a single ROD is the result.

## **2.2**

### **HOLDING COSTS**

Each ROD in the Customer Depot Complaint System (CDCS) closed between 1 October 91 and 30 June 94 was individually considered. A value for the pure supply cost, the lost opportunity cost, and the total holding cost was generated for each ROD. In all cases, a value for each type of cost was computed, taking into account the total dollar value of all items on a single ROD, the appropriate rate, and the time period during which the ROD was investigated and resolved. The calculation of pure supply costs and lost opportunity costs used published factors for the interest rates in the computations.

Averages of all costs were calculated for each individual FSC and DLA supply center. The total holding cost was then expressed as a percentage of average contract value for a given FSC.

## **2.3**

### **DATA SOURCES**

The quantitative information utilized in this analysis was developed from Special Purpose Data (SPD) standards for DLA activities; responses to detailed surveys from project DLA-90-P90136 for agencies that do not have published performance standards (service customer units, retail supply organizations, and service maintenance facilities); interviews with and visits to activities that are involved with material and information flow; accumulated performance data submitted by the individual supply centers to the DLA Directorate of Quality Assurance; and historical data from the DLA Integrated Data Bank files and other available data files. The CDCS was a valuable source of performance and transaction data for RODs processed by supply centers. Information from the cumulative Active Contract Files (ACF) was used in the holding cost portion of the analysis.

## **2.4**

### **ANALYSIS**

There were many stages of computation which led to the tables attached as appendices. The administrative costs were identified and quantified in a separately published September 1995 technical report, DLA-95-P50094, "Cost of Processing Reports of Discrepancy; Part I: Administrative Costs." The development of holding costs was provided in "Cost of Processing Reports of Discrepancy; Part II: Holding Costs." The final results of Parts I and II of the technical report are combined to form the tables in the appendices to this report.

### **2.4.1**

#### **MATERIAL FLOW**

The flow of material from the contractor through the supply system was the first step in estimating the relative frequencies that were associated with finding and reporting packaging and shipping discrepancies at all levels in the supply chain.

A contractor may ship DLA items to a depot or to any service maintenance facility. It may be economically advantageous and more efficient if the contractor ships directly to an appropriate retail supply activity - the supply source for the ultimate user or requisitioner. This certainly

applies to the situation in which items are not normally stocked at depots. These types of supplies are purchased by DLA for direct vendor delivery (DVD) to customers.

A DoD depot may ship to a service maintenance facility or to a retail support activity. A depot may also discover a discrepant item or shipment during inspection by the receiving division. A service maintenance facility, receiving supplies directly from a contractor or depot, may ship an item to a supporting supply activity if this item is believed to be "error-free." However, a service maintenance facility may also discover a discrepant item and, as a result, prevent shipment to other supply activities. A supporting supply activity or retail supply point may receive items from a depot, a service maintenance facility, or directly from a contractor. In any case, it ships to the ultimate user or requisitioner of the item, who will actually use the item for the purpose for which it was designed. Some examples of retail supply activities are Army supply and service companies, Air Force base supply activities, or Navy supply ships. Both the supporting supply activities and the ultimate users have the opportunity to discover a discrepant item.

The first step of the analysis was the determination of the proportions (probabilities) of discrepant and nondiscrepant items at each level of supply. A complete analysis describing the material flow to various supply levels via branch probabilities is provided in Part I of the technical report. Part I also provides interim results that are utilized to describe discrepant material occurrence at each supply center.

#### **2.4.2 COST CALCULATIONS**

Once a nonconforming item is discovered, the reporting process begins. Costs are accumulated at many diverse activities as the ROD proceeds through the administrative chain. The cost depends upon who initiates the ROD as well as which supply center manages the particular item. Costs were captured for each of the four potential complaint initiator types for a typical item at each of the six DLA supply centers.

The number of participants in a ROD flow depends upon the complexity of the problem, impact on customers, dollar value of the discrepant items, and other factors. These participants may involve focal points, action officers, contract administration representatives, and many other organizations and individuals. Costs associated with all of these participants were developed.

The "expected cost" of a particular supply level's involvement is simply the product of the calculated probability (representing the participant's involvement) multiplied by the administrative cost experienced when that supply level is involved. The expected cost of the administration performed in the initiation of, and response to, a ROD was computed by evaluating the expected cost of each activity (using a decision tree), and subsequently summing these costs.

Similar actions take place at each supply center when a ROD surfaces to that level. The procedures followed were assumed to be defined in the appropriate SPD standards. However, since each center is oriented to major commodity groupings, some variability in ROD processing time is expected. For example, the administrative and investigative efforts required for certain



repair parts may be substantially greater than those necessary to resolve RODs for a commercial "off-the-shelf" item. As a result, each center's activities were individually analyzed.

For each item (identified by FSC), the total expected administrative cost was computed by component costs. Individual cost estimates, each of which represents the administrative cost for one ROD for a particular center, were developed. Lastly, a single value that represents the costs of a typical ROD for a DLA item - averaged over all ROD initiators and all supply centers - was derived through appropriate weighting of each supply center cost with the discrepant item probability.

### **2.4.3 ADMINISTRATIVE COST DETERMINATION**

Tracing the ROD flow was the first step in accumulating individual activity costs. The reporting and resolution process is extremely complicated. This complexity arises from the attempt to ensure that ROD resolution occurs at the lowest level possible, that complete and correct information is always transferred from one activity to another, and that the ROD initiator is satisfied in the most expeditious fashion.

#### **2.4.3.1 CUSTOMER ACTIVITY**

The process may begin with a customer activity, the ultimate user of the item. The cost estimates developed for each function performed by a customer included appropriate consideration of leave and fringe benefit costs, and factors such as personal fatigue and work delay. Customer time and frequency data associated with ROD processing was collected by survey. In all cases where information was derived from survey results, the median cost, not the average or mean cost, was utilized. Using the median of all individual survey results provides a better cost estimate, since it eliminates the risk of a few extremely high or low costs affecting the entire sample. This update used the survey results from the original ROD study (DLA-90-P90136).

Customer unit costs are divided into two phases. The first phase involves the discovery of the discrepant material and the construction and submission of the ROD. The second phase involves responding to instructions regarding the disposition of the material in conjunction with the resolution of the ROD. It was assumed that if an activity initiates a ROD, that activity will eventually be provided instructions to handle the discrepant material .

#### **2.4.3.2 SUPPORTING SUPPLY ACTIVITY**

The supporting supply activity or retail supply point may initiate its own report if a discrepant item is detected upon receipt. The supporting supply activity receives, stores, and issues stock at the retail supply level directly in support of an intended user. A service maintenance facility operating at the wholesale supply level may receive and issue DLA managed items. A service maintenance facility, therefore, may detect a discrepant item and initiate a ROD. Information on detailed tasks normally performed at a retail supply point and at a service maintenance facility were obtained from surveys of these activities. Costs were calculated based on the time expended and the associated grade of the person performing each task.

#### **2.4.3.3**

#### **DEPOT**

A depot communicates a problem directly to a particular supply center depending upon the commodity affected. The actions that a depot normally takes are detailed in SPD standards. In addition to using the SPD standards, the actual flow of information and material within Defense Depot Richmond Virginia (DDRV) was studied in detail. In developing cost estimates, the process at DDRV was considered to be representative of the process at all DoD depots. To calculate the costs associated with the receipt of a discrepant item at a depot, SPD standards and information from interviews with DDRV personnel were utilized.

#### **2.4.3.4**

#### **FOCAL POINT**

The point in the supply center that receives the discrepancy for control, enters the data into the CDCS data base, and makes distribution, is the focal point. Although focal points at supply centers may be located in either supply operations or quality assurance, they perform the same function. DLA SPD standards formed the basis for all computations of costs within the focal point and provided a detailed description of tasks performed by the focal point.

The four major ROD processing points at a supply center are Contracting and Production, Supply Operations, Quality Assurance, and the Comptroller. The degree of participation of these center activities depends upon the complexity and nature of the ROD. SPD standards and probabilities calculated from the CDCS combined to produce the expected cost of involvement for center processing points. This was accomplished for each individual supply center. Detailed descriptions for each processing activity are available in the set of SPD standards used in this study. A general outline of functions that are commonly performed by center processing point activities is provided in Part I of the technical report.

Relative frequencies or probabilities, reflecting the proportion of time certain actions occurred, were obtained from SPD Standards and telephone interviews with the supply centers. Probabilities were utilized to calculate expected costs for various activities both within a DLA supply center and at the DCMC level. Due to the anticipated variability in the numbers of transactions passed among supply center activities, and due to the variability of personnel grades among the different centers, each supply center's focal and ROD processing points were individually considered.

Once costs had been assigned to each activity in the ROD process, with probabilities of event occurrences established to reflect different scenarios, total costs were compiled. A "roll-up" or combined cost included all costs of all center activities involved with the distribution of both material and information.

#### **2.4.3.5**

#### **DCMC**

Costs experienced at the DCMC level were then considered. The primary DCMC costs consist of Quality Assurance Representative (QAR) and Administrative Contracting Officer (ACO)

involvement. The expected cost of DCMC involvement became the product of two quantities; the total of individual activity costs at the DCMC level and the probability of DCMC involvement. Each FSC was analyzed separately for the DCMC portion of the analysis. Job descriptions (as they are related to complaint processing) for DCMC elements are referenced in Part I of the technical report.

The analysis contained in Part I of the technical report produced a breakdown of administrative costs for each center and FSC. Costs were stratified by non-DLA activities (ultimate customers, retail supply points, service maintenance facilities and screening points), DLA activities (all DLA supply center and supply depot elements) and DCMC activities (QAR and ACO). The total of all administrative costs, experienced by all levels and activities, is reflected in Part I, Appendices T and U, of the September 1995 technical report. Lastly, to arrive at a set of expected costs for non-DLA, DLA and DCMC activities that represent "global" ROD costs (across all centers), each non-DLA cost, DLA cost and DCMC cost was multiplied by the probability of ROD occurrence for that center. This produced weighted-average expected costs. These results are also provided in Part I of the technical report.

#### 2.4.4 HOLDING COST DETERMINATION

To calculate the holding cost, each record in the CDCS data base that was coded as a contractor-caused ROD was analyzed. An estimate of the material cost on the ROD was derived from the quantity involved in the ROD and the unit price of the particular item. This estimated cost represented the amount of money that was held in suspense awaiting ROD resolution and was utilized as a principal from which the cost of money and pure supply costs were generated. Specifics of this analysis are explained in Part II of the technical report.

The total holding cost rates for stock in a suspense mode differ from supply center to supply center. The source of these factors is the GAO report, Cost Factors Used to Manage Secondary Items, May 1992, updated for the current cost of money. The total holding cost rate is comprised of the pure holding cost plus the cost of money. For example, the pure holding cost for DCSC (7%) plus the cost of money (7.3%) equals the total holding cost rate (14.3%). Table 1 displays these rates.

<u>Center</u>	<u>Rate</u>
DCSC	14.3%
DESC	16.3%
DGSC	14.3%
DISC	15.3%
DPSC (C&T)	15.3%
DPSC (Med)	9.3%

Table 2-1. TOTAL HOLDING COST RATES

The rate used for the cost of money in this study is 7.3 percent. This figure is the current discount rate for DLA investments. The difference between the total holding cost and the cost of money provides the cost of pure supply actions.

All packaging RODs will accumulate a holding cost during ROD resolution. However, a holding cost is not associated with all shipping RODs. Overages, in this study, are assumed to be "exempt" from the cost of lost opportunity since the quantity over does not reflect a purchase by the government.

In all cases, an estimate of each type of cost for each ROD was computed taking into account the total dollar value of all items on each ROD, the appropriate rate, and the time period that the ROD was being investigated and resolved. Only RODs "closed" (resolved) between 1 Oct 91 and 30 Jun 94 were considered in the analysis. The duration of a ROD was measured to the nearest day; therefore, compounding occurred on each day for the entire period that a ROD was open. Given that the total dollar value of items on a ROD is "T", the total holding cost (THC) of the money committed to the supplies is:

$$THC = T \left( 1 + \frac{r}{365} \right)^m$$

Here "r" is the appropriate rate, in decimal form (for example, 0.143 for total holding cost rate for a DGSC item). The cost experienced,  $C_E$ , is the difference between this total holding cost after a period of "m" days and the initial value "T":

$$C_E = THC - T$$

An example highlights the technique for calculating the total holding costs for material reflected on a complaint:

A ROD was reviewed for a DGSC item. The unit price of the item is \$32.50. The number of discrepant items for this ROD is 50. The ROD was initiated on Julian date 94280 and resolved on Julian date 95025. Determine the total holding cost for material on this complaint as follows:

Total Value of Material (T)	
\$32.50 per item x 50 items	= \$1,625
Total Duration Time of ROD (m)	
The difference (in days) between Julian dates 95025 and 94280	111 days
Total Holding Cost Rate (for DGSC) expressed as decimal (r)	0.143
THC = (\$1,625) x $\left( 1 + \frac{0.143}{365} \right)^{111 \text{ days}}$	= \$1,697

Total Holding Cost Experienced ( $C_E$ )

$$CE = \$1,697 - \$1,625 = \$ 72$$

For this example, the total holding cost experienced by the government for the material on this ROD is \$ 72.

After computing holding cost values for each ROD, all dollar figures were summed to a specific FSC. Average costs, with respect to the number of RODs, were then calculated. The total holding cost was also expressed as a percentage of average contract value for each given FSC in Part II of the technical report. The Active Contract File (ACF) was used to calculate an average contract value for each FSC to arrive at this percentage. The effect of a ROD is expressed as a percentage of the average contract value for a specific FSC. The product of this percentage and a proposed bid becomes the holding cost component of the Evaluation Factor (E.F.) reported in this study. The process was repeated to obtain supply center results.

## SECTION 3

### RESULTS

The ROD cost equations are provided in Table 3-1 for packaging RODs and in Table 3-2 for shipping RODs. The evaluation factor can be generated for any given proposed contract value, and can be used in the bid evaluation process. Each formula represents the sum of the average cost of ROD processing and the average cost for holding material for a typical item managed by each center.

<u>Supply Center</u>	<u>Evaluation Factor</u>	=	<u>Admin Cost</u>	+	<u>Holding Cost Percentage</u>	x	<u>Proposed Contract Value</u>
DCSC	E.F.	=	\$ 121	+	(.0381	x	\$_____)
DESC	E.F.	=	\$ 105	+	(.0369	x	\$_____)
DGSC	E.F.	=	\$ 155	+	(.0239	x	\$_____)
DISC	E.F.	=	\$ 97	+	(.0703	x	\$_____)
DPSC (T)	E.F.	=	\$ 167	+	(.0108	x	\$_____)
DPSC (M)	E.F.	=	\$ 98	+	(.0283	x	\$_____)
AVG			\$ 124	+	(.0310	x	\$_____)

Table 3-1. Packaging ROD Individual Center Results

<u>Supply Center</u>	<u>Evaluation Factor</u>	=	<u>Admin Cost</u>	+	<u>Holding Cost Percentage</u>	x	<u>Proposed Contract Value</u>
DCSC	E.F.	=	\$ 164	+	(.0179	x	\$ _____)
DESC	E.F.	=	\$ 154	+	(.0220	x	\$ _____)
DGSC	E.F.	=	\$ 129	+	(.0135	x	\$ _____)
DISC	E.F.	=	\$ 134	+	(.0260	x	\$ _____)
DPSC (T)	E.F.	=	\$ 193	+	(.0010	x	\$ _____)
DPSC (M)	E.F.	=	\$ 122	+	(.0168	x	\$ _____)
AVG			\$ 149	+	(.0220	x	\$ _____)

Table 3-2. Shipping ROD Individual Center Results

More detailed evaluation factor formulas were also produced for this study. Appendix A contains packaging ROD E.F. calculations for FSCs within each DLA supply center. In a similar fashion, the shipping ROD E.F. calculations are given in Appendix B by the FSCs within each supply center.

The E.F. tables, attached as the appendices to this report, will be available to the appropriate contracting officers at the DLA supply centers. The evaluation factor is expressed as the sum of the two cost components. The administrative cost is calculated as a fixed cost for each FSC. The holding cost, however, is variable. It is represented as a percentage of the proposed contract value for a particular item identified within an FSC. The holding cost percentage is also "rolled up" for each center.

The key element of information needed to assess the evaluation factor for a contractor is the average number of packaging or shipping RODs (per contract) experienced for a particular contractor for a specific type of item within an FSC or managing center. The number of RODs can be accessed directly from the Customer Depot Complaint System (CDCS) by the Center Contracting Directorate or through coordination with the Center Quality Assurance Directorate. Once this figure is determined, the evaluation factor is readily calculated.

An example will highlight the implementation procedure. References will be made to the appropriate attached appendix for the required figures:

A firm offers \$20,000 for a contract containing items falling under FSC 5320 at DISC. This firm has an average of 3 shipping RODs and 1.5 packaging RODs per contract in the past year for FSC 5320 items. Calculate the total evaluation factor for RODs, and the "true" cost of this proposal.

#### Packaging ROD

(Costs retrieved from Appendix A - DISC Section)

Administrative Costs		= \$	96
Holding Costs	(.1771) x (\$20,000)	=	\$ 3,542
Evaluation Factor per ROD	\$ 96 + \$3,542	=	\$ 3,638
Total Evaluation Factor for Pkg RODs	(1.5 RODs) x (\$3,638)	=	\$ 5,457

#### Shipping ROD

(Costs retrieved from Appendix B - DISC Section)

Administrative Costs		= \$	134
Holding Costs	(.0286) x (\$20,000)	=	\$ 572
Evaluation Factor per ROD	\$134 + \$572	=	\$ 706
Total Evaluation Factor for Ship RODs	(3 RODs) x (\$706)	=	\$ 2,118

#### True Cost of Contract

$$\begin{aligned} &\text{Original Offer} + \text{Total E.F. (Packaging ROD)} + \text{Total E.F. (Shipping ROD)} \\ &= \$20,000 + \$ 5,457 + \$ 2,118 = \$27,575 \end{aligned}$$

For this particular firm, an offer of \$20,000 is expected to cost the government \$27,575 based on this firm's ROD history. This "true" cost may be utilized in comparison with other firms bidding for the same type item.



## SECTION 4

### CONCLUSIONS

Administrative costs have generally increased since the original report on RODs costs was completed (DLA-90-P90136, February 1990). These higher costs are due to higher wage levels that are now in effect. However, expected administrative costs are highly dependent on who actually resolves the ROD, whether it is Quality Assurance, the Comptroller, etc., or a combination of resolvers. For example, the expected costs for Defense Contract Management Command (DCMC) involvement are substantially lower in this update because far fewer RODs are passed to DCMC for resolution than was originally believed. Detailed discussion of DCMC costs and all other costs can be found in the technical manual.

Appendices A and B to this report provide evaluation factors by supply center and FSC which can be used in the bid evaluation process. Detailed descriptions of evaluation factor calculations can also be found in the technical manual.

## **SECTION 5**

### **RECOMMENDATIONS**

Recommend that the evaluation factors based on the cost estimates developed in this study be used in bid evaluations at DLA supply centers. A list of items that have had numerous discrepancies, and a list of contractors having high rates of ROD occurrence, should be developed. The resulting lists, for both problem items and poorly performing contractors, should be combined to become part of a viable and meaningful contract cost evaluation procedure.

If a particular FSC does not appear in the appendices to this report, supply center averages can be used, which are in Tables 2 and 3. These averages can also be used in cases where there may be unusually high or low holding cost factors.

The implementation of these evaluation factors will provide a more accurate estimate of the cost of doing business with contractors who have had a history of problems. These evaluation factors can assist DLA in determining "best value" buys and thus make more cost-effective contract award decisions. In addition, from a broader perspective, if contractors are being evaluated on performance they may be motivated to reduce discrepancies in the future.

APPENDIX A

Packaging ROD Evaluation Factors

(By Center and FSC)

FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		-----		-----		-----	
1650	DCSC	E.F.	=	125	+	(	0.0005	X	\$ _____ )
2010	DCSC	E.F.	=	120	+	(	0.1391	X	\$ _____ )
2510	DCSC	E.F.	=	119	+	(	0.0089	X	\$ _____ )
2520	DCSC	E.F.	=	119	+	(	0.0384	X	\$ _____ )
2530	DCSC	E.F.	=	119	+	(	0.0023	X	\$ _____ )
2540	DCSC	E.F.	=	119	+	(	0.0139	X	\$ _____ )
2590	DCSC	E.F.	=	119	+	(	0.0561	X	\$ _____ )
2815	DCSC	E.F.	=	122	+	(	0.0142	X	\$ _____ )
2825	DCSC	E.F.	=	122	+	(	0.2500	X	\$ _____ )
2910	DCSC	E.F.	=	122	+	(	0.0049	X	\$ _____ )
2920	DCSC	E.F.	=	122	+	(	0.0001	X	\$ _____ )
2940	DCSC	E.F.	=	122	+	(	0.0045	X	\$ _____ )
2990	DCSC	E.F.	=	122	+	(	0.0285	X	\$ _____ )
3010	DCSC	E.F.	=	122	+	(	0.0832	X	\$ _____ )
3020	DCSC	E.F.	=	122	+	(	0.0180	X	\$ _____ )
3030	DCSC	E.F.	=	122	+	(	0.0131	X	\$ _____ )
3040	DCSC	E.F.	=	122	+	(	0.0057	X	\$ _____ )
3805	DCSC	E.F.	=	120	+	(	0.0017	X	\$ _____ )
4210	DCSC	E.F.	=	122	+	(	0.0031	X	\$ _____ )
4220	DCSC	E.F.	=	122	+	(	0.1378	X	\$ _____ )
4310	DCSC	E.F.	=	122	+	(	0.0121	X	\$ _____ )
4330	DCSC	E.F.	=	122	+	(	0.0122	X	\$ _____ )
4420	DCSC	E.F.	=	122	+	(	0.0011	X	\$ _____ )
4510	DCSC	E.F.	=	119	+	(	0.0476	X	\$ _____ )
4520	DCSC	E.F.	=	119	+	(	0.0696	X	\$ _____ )
4540	DCSC	E.F.	=	119	+	(	0.0493	X	\$ _____ )
4710	DCSC	E.F.	=	119	+	(	0.0936	X	\$ _____ )
4720	DCSC	E.F.	=	119	+	(	0.0120	X	\$ _____ )
4730	DCSC	E.F.	=	119	+	(	0.0445	X	\$ _____ )
4820	DCSC	E.F.	=	120	+	(	0.0073	X	\$ _____ )
4940	DCSC	E.F.	=	120	+	(	0.0481	X	\$ _____ )
5440	DCSC	E.F.	=	120	+	(	0.0086	X	\$ _____ )
5510	DCSC	E.F.	=	120	+	(	0.0265	X	\$ _____ )

FSC	Center	Evaluation Factor per Pkg ROD =	Admin Cost	+	(Proportion	- X	Proposed Contract) Value
----	----	-----	-----		-----	-----	-----
1240	DESC	E.F. =	104	+	( 0.0004	X	\$ _____)
1260	DESC	E.F. =	104	+	( 0.0278	X	\$ _____)
1270	DESC	E.F. =	104	+	( 0.0642	X	\$ _____)
1290	DESC	E.F. =	104	+	( 0.0033	X	\$ _____)
1420	DESC	E.F. =	104	+	( 0.0826	X	\$ _____)
1430	DESC	E.F. =	104	+	( 0.0016	X	\$ _____)
1440	DESC	E.F. =	104	+	( 0.0012	X	\$ _____)
5805	DESC	E.F. =	107	+	( 0.0138	X	\$ _____)
5815	DESC	E.F. =	107	+	( 0.0031	X	\$ _____)
5820	DESC	E.F. =	107	+	( 0.0590	X	\$ _____)
5825	DESC	E.F. =	107	+	( 0.0462	X	\$ _____)
5826	DESC	E.F. =	107	+	( 0.0364	X	\$ _____)
5835	DESC	E.F. =	107	+	( 0.0007	X	\$ _____)
5836	DESC	E.F. =	107	+	( 0.1009	X	\$ _____)
5855	DESC	E.F. =	107	+	( 0.0005	X	\$ _____)
5865	DESC	E.F. =	107	+	( 0.0150	X	\$ _____)
5895	DESC	E.F. =	107	+	( 0.0083	X	\$ _____)
5905	DESC	E.F. =	104	+	( 0.0380	X	\$ _____)
5910	DESC	E.F. =	104	+	( 0.2500	X	\$ _____)
5915	DESC	E.F. =	104	+	( 0.0329	X	\$ _____)
5920	DESC	E.F. =	104	+	( 0.0047	X	\$ _____)
5925	DESC	E.F. =	104	+	( 0.0166	X	\$ _____)
5930	DESC	E.F. =	104	+	( 0.0187	X	\$ _____)
5935	DESC	E.F. =	104	+	( 0.0934	X	\$ _____)
5945	DESC	E.F. =	104	+	( 0.0234	X	\$ _____)
5950	DESC	E.F. =	104	+	( 0.0453	X	\$ _____)
5955	DESC	E.F. =	104	+	( 0.0358	X	\$ _____)
5960	DESC	E.F. =	106	+	( 0.0039	X	\$ _____)
5961	DESC	E.F. =	104	+	( 0.0148	X	\$ _____)
5962	DESC	E.F. =	106	+	( 0.0347	X	\$ _____)
5963	DESC	E.F. =	105	+	( 0.0146	X	\$ _____)
5965	DESC	E.F. =	107	+	( 0.0327	X	\$ _____)
5980	DESC	E.F. =	101	+	( 0.0321	X	\$ _____)
5985	DESC	E.F. =	101	+	( 0.0104	X	\$ _____)
5990	DESC	E.F. =	101	+	( 0.0001	X	\$ _____)
5998	DESC	E.F. =	107	+	( 0.0135	X	\$ _____)
5999	DESC	E.F. =	107	+	( 0.0246	X	\$ _____)
6020	DESC	E.F. =	104	+	( 0.0049	X	\$ _____)
6060	DESC	E.F. =	104	+	( 0.0726	X	\$ _____)
6625	DESC	E.F. =	106	+	( 0.2309	X	\$ _____)
7025	DESC	E.F. =	104	+	( 0.0517	X	\$ _____)
7030	DESC	E.F. =	104	+	( 0.0042	X	\$ _____)
7045	DESC	E.F. =	104	+	( 0.0478	X	\$ _____)
7050	DESC	E.F. =	104	+	( 0.0064	X	\$ _____)

FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value
----	-----	-----		----		-----		-----
1055	DGSC	E.F.	=	154	+	(	0.0167	X \$ _____)
1075	DGSC	E.F.	=	154	+	(	0.1332	X \$ _____)
1560	DGSC	E.F.	=	154	+	(	0.0198	X \$ _____)
1670	DGSC	E.F.	=	154	+	(	0.0245	X \$ _____)
1680	DGSC	E.F.	=	154	+	(	0.0303	X \$ _____)
2030	DGSC	E.F.	=	154	+	(	0.0646	X \$ _____)
2040	DGSC	E.F.	=	154	+	(	0.0104	X \$ _____)
2090	DGSC	E.F.	=	154	+	(	0.0205	X \$ _____)
3040	DGSC	E.F.	=	154	+	(	0.0002	X \$ _____)
3220	DGSC	E.F.	=	154	+	(	0.0009	X \$ _____)
3230	DGSC	E.F.	=	154	+	(	0.0019	X \$ _____)
3415	DGSC	E.F.	=	155	+	(	0.0080	X \$ _____)
3417	DGSC	E.F.	=	155	+	(	0.2500	X \$ _____)
3419	DGSC	E.F.	=	155	+	(	0.0204	X \$ _____)
3426	DGSC	E.F.	=	155	+	(	0.2500	X \$ _____)
3431	DGSC	E.F.	=	155	+	(	0.0057	X \$ _____)
3433	DGSC	E.F.	=	155	+	(	0.0228	X \$ _____)
3438	DGSC	E.F.	=	155	+	(	0.0124	X \$ _____)
3439	DGSC	E.F.	=	155	+	(	0.0153	X \$ _____)
3441	DGSC	E.F.	=	155	+	(	0.0168	X \$ _____)
3445	DGSC	E.F.	=	155	+	(	0.0055	X \$ _____)
3449	DGSC	E.F.	=	155	+	(	0.0007	X \$ _____)
3455	DGSC	E.F.	=	155	+	(	0.0144	X \$ _____)
3456	DGSC	E.F.	=	155	+	(	0.0056	X \$ _____)
3460	DGSC	E.F.	=	155	+	(	0.0195	X \$ _____)
3465	DGSC	E.F.	=	155	+	(	0.2500	X \$ _____)
3510	DGSC	E.F.	=	155	+	(	0.0170	X \$ _____)
3530	DGSC	E.F.	=	155	+	(	0.0057	X \$ _____)
3610	DGSC	E.F.	=	155	+	(	0.0221	X \$ _____)
3611	DGSC	E.F.	=	155	+	(	0.0218	X \$ _____)
3615	DGSC	E.F.	=	155	+	(	0.0181	X \$ _____)
3655	DGSC	E.F.	=	155	+	(	0.0097	X \$ _____)
3680	DGSC	E.F.	=	155	+	(	0.0288	X \$ _____)
3694	DGSC	E.F.	=	155	+	(	0.0262	X \$ _____)
3695	DGSC	E.F.	=	155	+	(	0.0072	X \$ _____)

FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
3920	DGSC	E.F.	=	155	+	(	0.0058	X	\$ _____)
3940	DGSC	E.F.	=	155	+	(	0.0115	X	\$ _____)
3990	DGSC	E.F.	=	155	+	(	0.0034	X	\$ _____)
4110	DGSC	E.F.	=	154	+	(	0.0059	X	\$ _____)
4120	DGSC	E.F.	=	154	+	(	0.0041	X	\$ _____)
4130	DGSC	E.F.	=	154	+	(	0.0091	X	\$ _____)
4140	DGSC	E.F.	=	154	+	(	0.0141	X	\$ _____)
4240	DGSC	E.F.	=	154	+	(	0.0187	X	\$ _____)
4920	DGSC	E.F.	=	156	+	(	0.0047	X	\$ _____)
4933	DGSC	E.F.	=	156	+	(	0.0026	X	\$ _____)
5220	DGSC	E.F.	=	155	+	(	0.0139	X	\$ _____)
5355	DGSC	E.F.	=	155	+	(	0.0816	X	\$ _____)
5940	DGSC	E.F.	=	154	+	(	0.0925	X	\$ _____)
5970	DGSC	E.F.	=	154	+	(	0.0302	X	\$ _____)
5975	DGSC	E.F.	=	154	+	(	0.0257	X	\$ _____)
5977	DGSC	E.F.	=	154	+	(	0.0155	X	\$ _____)
5995	DGSC	E.F.	=	154	+	(	0.0761	X	\$ _____)
6105	DGSC	E.F.	=	156	+	(	0.0089	X	\$ _____)
6110	DGSC	E.F.	=	154	+	(	0.0057	X	\$ _____)
6115	DGSC	E.F.	=	156	+	(	0.0021	X	\$ _____)
6120	DGSC	E.F.	=	155	+	(	0.0123	X	\$ _____)
6125	DGSC	E.F.	=	155	+	(	0.0002	X	\$ _____)
6130	DGSC	E.F.	=	156	+	(	0.0134	X	\$ _____)
6135	DGSC	E.F.	=	155	+	(	0.0191	X	\$ _____)
6140	DGSC	E.F.	=	156	+	(	0.0289	X	\$ _____)
6150	DGSC	E.F.	=	154	+	(	0.0057	X	\$ _____)
6160	DGSC	E.F.	=	154	+	(	0.0006	X	\$ _____)
6210	DGSC	E.F.	=	154	+	(	0.0177	X	\$ _____)
6220	DGSC	E.F.	=	154	+	(	0.0167	X	\$ _____)
6230	DGSC	E.F.	=	154	+	(	0.0056	X	\$ _____)
6240	DGSC	E.F.	=	154	+	(	0.0207	X	\$ _____)
6250	DGSC	E.F.	=	154	+	(	0.0269	X	\$ _____)
6260	DGSC	E.F.	=	154	+	(	0.0068	X	\$ _____)
6320	DGSC	E.F.	=	155	+	(	0.0329	X	\$ _____)
6340	DGSC	E.F.	=	155	+	(	0.0152	X	\$ _____)

FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
----	-----	-----		-----		-----		-----	
6350	DGSC	E.F.	=	155	+	(	0.0217	X	\$ _____ )
6605	DGSC	E.F.	=	154	+	(	0.0157	X	\$ _____ )
6610	DGSC	E.F.	=	154	+	(	0.0038	X	\$ _____ )
6615	DGSC	E.F.	=	154	+	(	0.0015	X	\$ _____ )
6620	DGSC	E.F.	=	154	+	(	0.0056	X	\$ _____ )
6635	DGSC	E.F.	=	154	+	(	0.0206	X	\$ _____ )
6645	DGSC	E.F.	=	154	+	(	0.0184	X	\$ _____ )
6650	DGSC	E.F.	=	154	+	(	0.0058	X	\$ _____ )
6655	DGSC	E.F.	=	154	+	(	0.0115	X	\$ _____ )
6660	DGSC	E.F.	=	154	+	(	0.0019	X	\$ _____ )
6665	DGSC	E.F.	=	154	+	(	0.0130	X	\$ _____ )
6670	DGSC	E.F.	=	154	+	(	0.0079	X	\$ _____ )
6675	DGSC	E.F.	=	154	+	(	0.0058	X	\$ _____ )
6680	DGSC	E.F.	=	154	+	(	0.0179	X	\$ _____ )
6685	DGSC	E.F.	=	154	+	(	0.0192	X	\$ _____ )
6695	DGSC	E.F.	=	154	+	(	0.0135	X	\$ _____ )
6730	DGSC	E.F.	=	154	+	(	0.0764	X	\$ _____ )
6740	DGSC	E.F.	=	154	+	(	0.0308	X	\$ _____ )
6750	DGSC	E.F.	=	154	+	(	0.0658	X	\$ _____ )
6760	DGSC	E.F.	=	154	+	(	0.0028	X	\$ _____ )
6770	DGSC	E.F.	=	154	+	(	0.0347	X	\$ _____ )
6810	DGSC	E.F.	=	156	+	(	0.0244	X	\$ _____ )
6820	DGSC	E.F.	=	156	+	(	0.0099	X	\$ _____ )
6830	DGSC	E.F.	=	156	+	(	0.0124	X	\$ _____ )
6840	DGSC	E.F.	=	156	+	(	0.0144	X	\$ _____ )
6850	DGSC	E.F.	=	156	+	(	0.0087	X	\$ _____ )
6910	DGSC	E.F.	=	155	+	(	0.1424	X	\$ _____ )
6920	DGSC	E.F.	=	155	+	(	0.0026	X	\$ _____ )
6930	DGSC	E.F.	=	155	+	(	0.0004	X	\$ _____ )
7105	DGSC	E.F.	=	155	+	(	0.0011	X	\$ _____ )
7240	DGSC	E.F.	=	155	+	(	0.0006	X	\$ _____ )
7310	DGSC	E.F.	=	156	+	(	0.0105	X	\$ _____ )
7320	DGSC	E.F.	=	156	+	(	0.0162	X	\$ _____ )
7360	DGSC	E.F.	=	156	+	(	0.0018	X	\$ _____ )
7610	DGSC	E.F.	=	155	+	(	0.0136	X	\$ _____ )



FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
7640	DGSC	E.F.	=	155	+	(	0.0059	X	\$ _____)
7670	DGSC	E.F.	=	155	+	(	0.0292	X	\$ _____)
7690	DGSC	E.F.	=	155	+	(	0.0717	X	\$ _____)
8110	DGSC	E.F.	=	155	+	(	0.0020	X	\$ _____)
8120	DGSC	E.F.	=	155	+	(	0.0067	X	\$ _____)
8125	DGSC	E.F.	=	155	+	(	0.0109	X	\$ _____)
8130	DGSC	E.F.	=	155	+	(	0.0254	X	\$ _____)
8140	DGSC	E.F.	=	155	+	(	0.0142	X	\$ _____)
8145	DGSC	E.F.	=	155	+	(	0.0100	X	\$ _____)
9150	DGSC	E.F.	=	155	+	(	0.0047	X	\$ _____)
9160	DGSC	E.F.	=	155	+	(	0.0080	X	\$ _____)
9320	DGSC	E.F.	=	156	+	(	0.0087	X	\$ _____)
9330	DGSC	E.F.	=	156	+	(	0.0076	X	\$ _____)
9340	DGSC	E.F.	=	156	+	(	0.0140	X	\$ _____)
9350	DGSC	E.F.	=	156	+	(	0.0036	X	\$ _____)
9390	DGSC	E.F.	=	156	+	(	0.0362	X	\$ _____)
9905	DGSC	E.F.	=	155	+	(	0.0024	X	\$ _____)
9925	DGSC	E.F.	=	155	+	(	0.0069	X	\$ _____)
9930	DGSC	E.F.	=	155	+	(	0.0117	X	\$ _____)

FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
2840	DISC	E.F.	=	98	+	(	0.0766	X	\$ _____)
2925	DISC	E.F.	=	96	+	(	0.0055	X	\$ _____)
3110	DISC	E.F.	=	97	+	(	0.0379	X	\$ _____)
3120	DISC	E.F.	=	97	+	(	0.0556	X	\$ _____)
3130	DISC	E.F.	=	97	+	(	0.0067	X	\$ _____)
4010	DISC	E.F.	=	96	+	(	0.1829	X	\$ _____)
4020	DISC	E.F.	=	96	+	(	0.0353	X	\$ _____)
4030	DISC	E.F.	=	96	+	(	0.1726	X	\$ _____)
5305	DISC	E.F.	=	96	+	(	0.1134	X	\$ _____)
5306	DISC	E.F.	=	96	+	(	0.0435	X	\$ _____)
5307	DISC	E.F.	=	96	+	(	0.1004	X	\$ _____)
5310	DISC	E.F.	=	96	+	(	0.0724	X	\$ _____)
5315	DISC	E.F.	=	96	+	(	0.2500	X	\$ _____)
5320	DISC	E.F.	=	96	+	(	0.1771	X	\$ _____)
5325	DISC	E.F.	=	96	+	(	0.0615	X	\$ _____)
5330	DISC	E.F.	=	96	+	(	0.0446	X	\$ _____)
5340	DISC	E.F.	=	96	+	(	0.0768	X	\$ _____)
5360	DISC	E.F.	=	96	+	(	0.0804	X	\$ _____)
5365	DISC	E.F.	=	96	+	(	0.0775	X	\$ _____)
6145	DISC	E.F.	=	96	+	(	0.0342	X	\$ _____)
9505	DISC	E.F.	=	98	+	(	0.0174	X	\$ _____)
9515	DISC	E.F.	=	98	+	(	0.0017	X	\$ _____)
9525	DISC	E.F.	=	98	+	(	0.0067	X	\$ _____)
9530	DISC	E.F.	=	98	+	(	0.0265	X	\$ _____)
9535	DISC	E.F.	=	98	+	(	0.0007	X	\$ _____)

FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value
---	-----	-----		----		-----		-----
7210	DPSC-T	E.F.	=	167	+	(	0.0033	X \$ _____ )
8315	DPSC-T	E.F.	=	167	+	(	0.0354	X \$ _____ )
8340	DPSC-T	E.F.	=	167	+	(	0.0138	X \$ _____ )
8405	DPSC-T	E.F.	=	167	+	(	0.0123	X \$ _____ )
8410	DPSC-T	E.F.	=	167	+	(	0.0041	X \$ _____ )
8415	DPSC-T	E.F.	=	165	+	(	0.0077	X \$ _____ )
8420	DPSC-T	E.F.	=	167	+	(	0.0009	X \$ _____ )
8430	DPSC-T	E.F.	=	167	+	(	0.0021	X \$ _____ )
8455	DPSC-T	E.F.	=	167	+	(	0.0286	X \$ _____ )
8460	DPSC-T	E.F.	=	166	+	(	0.0077	X \$ _____ )
8465	DPSC-T	E.F.	=	165	+	(	0.0027	X \$ _____ )

FSC	Center	Evaluation Factor per Pkg ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value
---	-----	-----		----		-----		-----
4330	DPSC-M	E.F.	=	99	+	(	0.0947	X \$_____)
4610	DPSC-M	E.F.	=	99	+	(	0.0435	X \$_____)
5120	DPSC-M	E.F.	=	99	+	(	0.0014	X \$_____)
5935	DPSC-M	E.F.	=	99	+	(	0.0041	X \$_____)
5975	DPSC-M	E.F.	=	99	+	(	0.0149	X \$_____)
6240	DPSC-M	E.F.	=	99	+	(	0.0005	X \$_____)
6505	DPSC-M	E.F.	=	99	+	(	0.0165	X \$_____)
6510	DPSC-M	E.F.	=	99	+	(	0.0091	X \$_____)
6515	DPSC-M	E.F.	=	99	+	(	0.0222	X \$_____)
6520	DPSC-M	E.F.	=	96	+	(	0.0063	X \$_____)
6525	DPSC-M	E.F.	=	96	+	(	0.0243	X \$_____)
6530	DPSC-M	E.F.	=	96	+	(	0.0168	X \$_____)
6532	DPSC-M	E.F.	=	94	+	(	0.0092	X \$_____)
6540	DPSC-M	E.F.	=	96	+	(	0.0016	X \$_____)
6545	DPSC-M	E.F.	=	97	+	(	0.0015	X \$_____)
6550	DPSC-M	E.F.	=	99	+	(	0.0554	X \$_____)
6625	DPSC-M	E.F.	=	99	+	(	0.0175	X \$_____)
6630	DPSC-M	E.F.	=	96	+	(	0.0565	X \$_____)
6640	DPSC-M	E.F.	=	99	+	(	0.0093	X \$_____)
6840	DPSC-M	E.F.	=	99	+	(	0.0098	X \$_____)
7210	DPSC-M	E.F.	=	99	+	(	0.0059	X \$_____)
7360	DPSC-M	E.F.	=	99	+	(	0.0001	X \$_____)
7520	DPSC-M	E.F.	=	99	+	(	0.0040	X \$_____)
7530	DPSC-M	E.F.	=	99	+	(	0.0253	X \$_____)
7690	DPSC-M	E.F.	=	99	+	(	0.0048	X \$_____)
8110	DPSC-M	E.F.	=	99	+	(	0.0836	X \$_____)
8115	DPSC-M	E.F.	=	99	+	(	0.0366	X \$_____)
8465	DPSC-M	E.F.	=	99	+	(	0.0092	X \$_____)
8530	DPSC-M	E.F.	=	99	+	(	0.0141	X \$_____)
9920	DPSC-M	E.F.	=	99	+	(	0.2500	X \$_____)

## APPENDIX B

### Shipping ROD Evaluation Factors

(By Center and FSC)

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
1005	DCSC	E.F.	=	163	+	(	0.0014	X	\$ _____)
1010	DCSC	E.F.	=	163	+	(	0.0018	X	\$ _____)
1015	DCSC	E.F.	=	163	+	(	0.0174	X	\$ _____)
1020	DCSC	E.F.	=	163	+	(	0.0063	X	\$ _____)
1095	DCSC	E.F.	=	163	+	(	0.0011	X	\$ _____)
1615	DCSC	E.F.	=	166	+	(	0.0020	X	\$ _____)
1650	DCSC	E.F.	=	166	+	(	0.0151	X	\$ _____)
1730	DCSC	E.F.	=	166	+	(	0.0070	X	\$ _____)
2010	DCSC	E.F.	=	163	+	(	0.0021	X	\$ _____)
2510	DCSC	E.F.	=	162	+	(	0.0032	X	\$ _____)
2520	DCSC	E.F.	=	162	+	(	0.0056	X	\$ _____)
2530	DCSC	E.F.	=	162	+	(	0.0208	X	\$ _____)
2540	DCSC	E.F.	=	162	+	(	0.0014	X	\$ _____)
2590	DCSC	E.F.	=	162	+	(	0.0090	X	\$ _____)
2805	DCSC	E.F.	=	164	+	(	0.0013	X	\$ _____)
2815	DCSC	E.F.	=	164	+	(	0.0105	X	\$ _____)
2825	DCSC	E.F.	=	164	+	(	0.0654	X	\$ _____)
2910	DCSC	E.F.	=	164	+	(	0.0111	X	\$ _____)
2920	DCSC	E.F.	=	164	+	(	0.0020	X	\$ _____)
2930	DCSC	E.F.	=	164	+	(	0.0052	X	\$ _____)
2940	DCSC	E.F.	=	164	+	(	0.0269	X	\$ _____)
2990	DCSC	E.F.	=	164	+	(	0.0060	X	\$ _____)
3010	DCSC	E.F.	=	164	+	(	0.0050	X	\$ _____)
3020	DCSC	E.F.	=	164	+	(	0.0159	X	\$ _____)
3030	DCSC	E.F.	=	164	+	(	0.0721	X	\$ _____)
3040	DCSC	E.F.	=	164	+	(	0.0162	X	\$ _____)
3740	DCSC	E.F.	=	163	+	(	0.0187	X	\$ _____)
3805	DCSC	E.F.	=	163	+	(	0.0181	X	\$ _____)
3820	DCSC	E.F.	=	163	+	(	0.0045	X	\$ _____)
3825	DCSC	E.F.	=	163	+	(	0.0002	X	\$ _____)
3830	DCSC	E.F.	=	163	+	(	0.0131	X	\$ _____)
3950	DCSC	E.F.	=	163	+	(	0.2070	X	\$ _____)
4210	DCSC	E.F.	=	164	+	(	0.0053	X	\$ _____)
4220	DCSC	E.F.	=	164	+	(	0.0068	X	\$ _____)
4310	DCSC	E.F.	=	164	+	(	0.0144	X	\$ _____)

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value
----	-----	-----		----		-----		-----
4320	DCSC	E.F.	=	164	+	(	0.0301	X \$ _____)
4330	DCSC	E.F.	=	164	+	(	0.0629	X \$ _____)
4410	DCSC	E.F.	=	163	+	(	0.0329	X \$ _____)
4420	DCSC	E.F.	=	163	+	(	0.0024	X \$ _____)
4440	DCSC	E.F.	=	163	+	(	0.0007	X \$ _____)
4460	DCSC	E.F.	=	163	+	(	0.0195	X \$ _____)
4510	DCSC	E.F.	=	162	+	(	0.0063	X \$ _____)
4520	DCSC	E.F.	=	162	+	(	0.0086	X \$ _____)
4530	DCSC	E.F.	=	162	+	(	0.0222	X \$ _____)
4540	DCSC	E.F.	=	162	+	(	0.0375	X \$ _____)
4610	DCSC	E.F.	=	163	+	(	0.0448	X \$ _____)
4710	DCSC	E.F.	=	162	+	(	0.0279	X \$ _____)
4720	DCSC	E.F.	=	162	+	(	0.0134	X \$ _____)
4730	DCSC	E.F.	=	162	+	(	0.0284	X \$ _____)
4810	DCSC	E.F.	=	163	+	(	0.0098	X \$ _____)
4820	DCSC	E.F.	=	163	+	(	0.0114	X \$ _____)
4910	DCSC	E.F.	=	163	+	(	0.0058	X \$ _____)
4930	DCSC	E.F.	=	163	+	(	0.0033	X \$ _____)
4940	DCSC	E.F.	=	163	+	(	0.0102	X \$ _____)
5510	DCSC	E.F.	=	163	+	(	0.0158	X \$ _____)
5530	DCSC	E.F.	=	163	+	(	0.0036	X \$ _____)
5660	DCSC	E.F.	=	163	+	(	0.0003	X \$ _____)

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
1240	DESC	E.F.	=	154	+	(	0.0273	X	\$ _____ )
1260	DESC	E.F.	=	154	+	(	0.0027	X	\$ _____ )
1270	DESC	E.F.	=	154	+	(	0.0005	X	\$ _____ )
1280	DESC	E.F.	=	154	+	(	0.0088	X	\$ _____ )
1420	DESC	E.F.	=	154	+	(	0.0021	X	\$ _____ )
1430	DESC	E.F.	=	154	+	(	0.0007	X	\$ _____ )
1440	DESC	E.F.	=	154	+	(	0.0651	X	\$ _____ )
1660	DESC	E.F.	=	154	+	(	0.0828	X	\$ _____ )
4935	DESC	E.F.	=	154	+	(	0.0000	X	\$ _____ )
5805	DESC	E.F.	=	155	+	(	0.0102	X	\$ _____ )
5815	DESC	E.F.	=	155	+	(	0.0061	X	\$ _____ )
5820	DESC	E.F.	=	155	+	(	0.0541	X	\$ _____ )
5821	DESC	E.F.	=	155	+	(	0.0413	X	\$ _____ )
5826	DESC	E.F.	=	155	+	(	0.0066	X	\$ _____ )
5835	DESC	E.F.	=	155	+	(	0.0016	X	\$ _____ )
5836	DESC	E.F.	=	155	+	(	0.0046	X	\$ _____ )
5840	DESC	E.F.	=	155	+	(	0.0718	X	\$ _____ )
5841	DESC	E.F.	=	155	+	(	0.0082	X	\$ _____ )
5845	DESC	E.F.	=	155	+	(	0.0050	X	\$ _____ )
5850	DESC	E.F.	=	155	+	(	0.0024	X	\$ _____ )
5855	DESC	E.F.	=	155	+	(	0.0001	X	\$ _____ )
5865	DESC	E.F.	=	155	+	(	0.0015	X	\$ _____ )
5895	DESC	E.F.	=	155	+	(	0.0121	X	\$ _____ )
5905	DESC	E.F.	=	153	+	(	0.0262	X	\$ _____ )
5910	DESC	E.F.	=	153	+	(	0.0185	X	\$ _____ )
5915	DESC	E.F.	=	153	+	(	0.0152	X	\$ _____ )
5920	DESC	E.F.	=	153	+	(	0.0100	X	\$ _____ )
5925	DESC	E.F.	=	153	+	(	0.0084	X	\$ _____ )
5930	DESC	E.F.	=	153	+	(	0.0121	X	\$ _____ )
5935	DESC	E.F.	=	153	+	(	0.0269	X	\$ _____ )
5945	DESC	E.F.	=	153	+	(	0.0098	X	\$ _____ )
5950	DESC	E.F.	=	153	+	(	0.0181	X	\$ _____ )
5955	DESC	E.F.	=	153	+	(	0.0167	X	\$ _____ )
5960	DESC	E.F.	=	154	+	(	0.0025	X	\$ _____ )
5961	DESC	E.F.	=	154	+	(	0.0191	X	\$ _____ )



FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X-	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
5962	DESC	E.F.	=	154	+	(	0.0263	X	\$ _____)
5963	DESC	E.F.	=	154	+	(	0.0613	X	\$ _____)
5965	DESC	E.F.	=	155	+	(	0.0038	X	\$ _____)
5980	DESC	E.F.	=	155	+	(	0.0173	X	\$ _____)
5985	DESC	E.F.	=	155	+	(	0.0087	X	\$ _____)
5990	DESC	E.F.	=	155	+	(	0.0123	X	\$ _____)
5995	DESC	E.F.	=	155	+	(	0.0667	X	\$ _____)
5998	DESC	E.F.	=	155	+	(	0.0105	X	\$ _____)
5999	DESC	E.F.	=	155	+	(	0.0082	X	\$ _____)
6060	DESC	E.F.	=	154	+	(	0.0081	X	\$ _____)
6625	DESC	E.F.	=	154	+	(	0.0189	X	\$ _____)
7010	DESC	E.F.	=	154	+	(	0.0281	X	\$ _____)
7025	DESC	E.F.	=	154	+	(	0.0050	X	\$ _____)
7030	DESC	E.F.	=	154	+	(	0.2369	X	\$ _____)
7035	DESC	E.F.	=	154	+	(	0.0146	X	\$ _____)
7045	DESC	E.F.	=	154	+	(	0.0037	X	\$ _____)
7050	DESC	E.F.	=	154	+	(	0.0149	X	\$ _____)

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		-----		-----		-----	
1055	DGSC	E.F.	=	129	+	(	0.0013	X	\$
1560	DGSC	E.F.	=	129	+	(	0.0164	X	\$
1670	DGSC	E.F.	=	129	+	(	0.0005	X	\$
1680	DGSC	E.F.	=	129	+	(	0.0182	X	\$
2030	DGSC	E.F.	=	129	+	(	0.0261	X	\$
2040	DGSC	E.F.	=	129	+	(	0.0153	X	\$
2090	DGSC	E.F.	=	129	+	(	0.0024	X	\$
3230	DGSC	E.F.	=	129	+	(	0.0053	X	\$
3413	DGSC	E.F.	=	129	+	(	0.0023	X	\$
3415	DGSC	E.F.	=	129	+	(	0.2077	X	\$
3416	DGSC	E.F.	=	129	+	(	0.0015	X	\$
3417	DGSC	E.F.	=	129	+	(	0.0014	X	\$
3419	DGSC	E.F.	=	129	+	(	0.0000	X	\$
3424	DGSC	E.F.	=	129	+	(	0.0065	X	\$
3426	DGSC	E.F.	=	129	+	(	0.0050	X	\$
3431	DGSC	E.F.	=	129	+	(	0.0018	X	\$
3433	DGSC	E.F.	=	129	+	(	0.0418	X	\$
3439	DGSC	E.F.	=	129	+	(	0.0300	X	\$
3441	DGSC	E.F.	=	129	+	(	0.0423	X	\$
3444	DGSC	E.F.	=	129	+	(	0.0076	X	\$
3445	DGSC	E.F.	=	129	+	(	0.0411	X	\$
3455	DGSC	E.F.	=	129	+	(	0.0070	X	\$
3456	DGSC	E.F.	=	129	+	(	0.0055	X	\$
3460	DGSC	E.F.	=	129	+	(	0.0053	X	\$
3510	DGSC	E.F.	=	129	+	(	0.0069	X	\$
3530	DGSC	E.F.	=	129	+	(	0.0057	X	\$
3610	DGSC	E.F.	=	129	+	(	0.0112	X	\$
3611	DGSC	E.F.	=	129	+	(	0.0001	X	\$
3615	DGSC	E.F.	=	129	+	(	0.0064	X	\$
3655	DGSC	E.F.	=	129	+	(	0.0038	X	\$
3694	DGSC	E.F.	=	129	+	(	0.0096	X	\$
3695	DGSC	E.F.	=	129	+	(	0.0189	X	\$
3920	DGSC	E.F.	=	129	+	(	0.0028	X	\$
3940	DGSC	E.F.	=	129	+	(	0.0033	X	\$
3990	DGSC	E.F.	=	129	+	(	0.0033	X	\$

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	---	---		---		-----		-----	
4110	DGSC	E.F.	=	129	+	(	0.0133	X	\$
4120	DGSC	E.F.	=	129	+	(	0.0048	X	\$
4130	DGSC	E.F.	=	129	+	(	0.0072	X	\$
4140	DGSC	E.F.	=	129	+	(	0.0050	X	\$
4240	DGSC	E.F.	=	129	+	(	0.0035	X	\$
4920	DGSC	E.F.	=	129	+	(	0.0023	X	\$
4933	DGSC	E.F.	=	129	+	(	0.0102	X	\$
5220	DGSC	E.F.	=	129	+	(	0.0051	X	\$
5355	DGSC	E.F.	=	129	+	(	0.0100	X	\$
5940	DGSC	E.F.	=	129	+	(	0.0073	X	\$
5970	DGSC	E.F.	=	129	+	(	0.0154	X	\$
5975	DGSC	E.F.	=	129	+	(	0.0182	X	\$
5977	DGSC	E.F.	=	129	+	(	0.0078	X	\$
5995	DGSC	E.F.	=	129	+	(	0.0059	X	\$
6105	DGSC	E.F.	=	129	+	(	0.0068	X	\$
6110	DGSC	E.F.	=	129	+	(	0.0089	X	\$
6115	DGSC	E.F.	=	129	+	(	0.0009	X	\$
6120	DGSC	E.F.	=	129	+	(	0.0016	X	\$
6125	DGSC	E.F.	=	129	+	(	0.0013	X	\$
6130	DGSC	E.F.	=	129	+	(	0.0081	X	\$
6135	DGSC	E.F.	=	129	+	(	0.0117	X	\$
6140	DGSC	E.F.	=	129	+	(	0.0724	X	\$
6150	DGSC	E.F.	=	129	+	(	0.0135	X	\$
6160	DGSC	E.F.	=	129	+	(	0.0089	X	\$
6210	DGSC	E.F.	=	129	+	(	0.0121	X	\$
6220	DGSC	E.F.	=	129	+	(	0.0065	X	\$
6230	DGSC	E.F.	=	129	+	(	0.0042	X	\$
6240	DGSC	E.F.	=	129	+	(	0.0043	X	\$
6250	DGSC	E.F.	=	129	+	(	0.0140	X	\$
6260	DGSC	E.F.	=	129	+	(	0.0008	X	\$
6320	DGSC	E.F.	=	129	+	(	0.0078	X	\$
6340	DGSC	E.F.	=	129	+	(	0.0038	X	\$
6350	DGSC	E.F.	=	129	+	(	0.0043	X	\$
6605	DGSC	E.F.	=	129	+	(	0.0054	X	\$
6610	DGSC	E.F.	=	129	+	(	0.0075	X	\$

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	-----
6615	DGSC	E.F.	=	129	+	(	0.0176	X	\$ _____)
6620	DGSC	E.F.	=	129	+	(	0.2239	X	\$ _____)
6635	DGSC	E.F.	=	129	+	(	0.0246	X	\$ _____)
6645	DGSC	E.F.	=	129	+	(	0.0029	X	\$ _____)
6650	DGSC	E.F.	=	129	+	(	0.0070	X	\$ _____)
6655	DGSC	E.F.	=	129	+	(	0.0052	X	\$ _____)
6660	DGSC	E.F.	=	129	+	(	0.0013	X	\$ _____)
6665	DGSC	E.F.	=	129	+	(	0.0065	X	\$ _____)
6670	DGSC	E.F.	=	129	+	(	0.0009	X	\$ _____)
6675	DGSC	E.F.	=	129	+	(	0.0024	X	\$ _____)
6680	DGSC	E.F.	=	129	+	(	0.0128	X	\$ _____)
6685	DGSC	E.F.	=	129	+	(	0.0218	X	\$ _____)
6695	DGSC	E.F.	=	129	+	(	0.0132	X	\$ _____)
6720	DGSC	E.F.	=	129	+	(	0.0002	X	\$ _____)
6730	DGSC	E.F.	=	129	+	(	0.0388	X	\$ _____)
6740	DGSC	E.F.	=	129	+	(	0.0078	X	\$ _____)
6750	DGSC	E.F.	=	129	+	(	0.0270	X	\$ _____)
6760	DGSC	E.F.	=	129	+	(	0.0013	X	\$ _____)
6810	DGSC	E.F.	=	129	+	(	0.0028	X	\$ _____)
6830	DGSC	E.F.	=	129	+	(	0.0024	X	\$ _____)
6840	DGSC	E.F.	=	129	+	(	0.0031	X	\$ _____)
6850	DGSC	E.F.	=	129	+	(	0.0064	X	\$ _____)
6920	DGSC	E.F.	=	129	+	(	0.0003	X	\$ _____)
6930	DGSC	E.F.	=	129	+	(	0.0464	X	\$ _____)
7105	DGSC	E.F.	=	129	+	(	0.0000	X	\$ _____)
7240	DGSC	E.F.	=	129	+	(	0.0001	X	\$ _____)
7310	DGSC	E.F.	=	129	+	(	0.0065	X	\$ _____)
7320	DGSC	E.F.	=	129	+	(	0.0101	X	\$ _____)
7330	DGSC	E.F.	=	129	+	(	0.0034	X	\$ _____)
7530	DGSC	E.F.	=	129	+	(	0.0064	X	\$ _____)
7610	DGSC	E.F.	=	129	+	(	0.0226	X	\$ _____)
7690	DGSC	E.F.	=	129	+	(	0.0102	X	\$ _____)
8110	DGSC	E.F.	=	129	+	(	0.0058	X	\$ _____)
8120	DGSC	E.F.	=	129	+	(	0.0007	X	\$ _____)
8125	DGSC	E.F.	=	129	+	(	0.0342	X	\$ _____)

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
8140	DGSC	E.F.	=	129	+	(	0.0055	X	\$ _____ )
8145	DGSC	E.F.	=	129	+	(	0.0138	X	\$ _____ )
9150	DGSC	E.F.	=	129	+	(	0.0043	X	\$ _____ )
9160	DGSC	E.F.	=	129	+	(	0.0005	X	\$ _____ )
9320	DGSC	E.F.	=	129	+	(	0.0030	X	\$ _____ )
9330	DGSC	E.F.	=	129	+	(	0.0102	X	\$ _____ )
9340	DGSC	E.F.	=	129	+	(	0.0119	X	\$ _____ )
9390	DGSC	E.F.	=	129	+	(	0.0036	X	\$ _____ )
9925	DGSC	E.F.	=	129	+	(	0.0257	X	\$ _____ )

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
----	-----	-----		----		-----		-----	
1560	DISC	E.F.	=	135	+	(	0.0000	X	\$ _____)
2810	DISC	E.F.	=	135	+	(	0.0001	X	\$ _____)
2835	DISC	E.F.	=	135	+	(	0.0158	X	\$ _____)
2840	DISC	E.F.	=	135	+	(	0.0049	X	\$ _____)
2915	DISC	E.F.	=	134	+	(	0.0064	X	\$ _____)
2925	DISC	E.F.	=	134	+	(	0.0255	X	\$ _____)
2935	DISC	E.F.	=	134	+	(	0.0123	X	\$ _____)
2945	DISC	E.F.	=	134	+	(	0.0246	X	\$ _____)
2950	DISC	E.F.	=	134	+	(	0.0242	X	\$ _____)
2995	DISC	E.F.	=	134	+	(	0.0098	X	\$ _____)
3110	DISC	E.F.	=	134	+	(	0.0288	X	\$ _____)
3120	DISC	E.F.	=	134	+	(	0.0310	X	\$ _____)
3130	DISC	E.F.	=	134	+	(	0.0160	X	\$ _____)
4010	DISC	E.F.	=	134	+	(	0.0210	X	\$ _____)
4020	DISC	E.F.	=	134	+	(	0.0062	X	\$ _____)
4030	DISC	E.F.	=	134	+	(	0.0109	X	\$ _____)
5305	DISC	E.F.	=	134	+	(	0.0762	X	\$ _____)
5306	DISC	E.F.	=	134	+	(	0.0263	X	\$ _____)
5307	DISC	E.F.	=	134	+	(	0.0103	X	\$ _____)
5310	DISC	E.F.	=	134	+	(	0.0231	X	\$ _____)
5315	DISC	E.F.	=	134	+	(	0.0635	X	\$ _____)
5320	DISC	E.F.	=	134	+	(	0.0286	X	\$ _____)
5325	DISC	E.F.	=	134	+	(	0.0218	X	\$ _____)
5330	DISC	E.F.	=	134	+	(	0.0261	X	\$ _____)
5335	DISC	E.F.	=	134	+	(	0.0241	X	\$ _____)
5340	DISC	E.F.	=	134	+	(	0.0173	X	\$ _____)
5360	DISC	E.F.	=	134	+	(	0.0602	X	\$ _____)
5365	DISC	E.F.	=	134	+	(	0.0325	X	\$ _____)
6145	DISC	E.F.	=	134	+	(	0.0077	X	\$ _____)
9505	DISC	E.F.	=	135	+	(	0.0020	X	\$ _____)
9510	DISC	E.F.	=	135	+	(	0.2153	X	\$ _____)
9515	DISC	E.F.	=	135	+	(	0.0370	X	\$ _____)
9520	DISC	E.F.	=	135	+	(	0.0184	X	\$ _____)
9525	DISC	E.F.	=	135	+	(	0.0008	X	\$ _____)
9530	DISC	E.F.	=	135	+	(	0.0262	X	\$ _____)

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value
---	-----	-----		----		-----		-----
9535	DISC	E.F.	=	135	+	( 0.0190	X	\$ _____ )
9540	DISC	E.F.	=	135	+	( 0.0142	X	\$ _____ )
9650	DISC	E.F.	=	134	+	( 0.0000	X	\$ _____ )

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
8415	DPSC-T	E.F.	=	193	+	( 0.0010	X	\$_____	)



FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----		-----	
3770	DPSC-M	E.F.	=	122	+	(	0.0010	X	\$
4540	DPSC-M	E.F.	=	122	+	(	0.1946	X	\$
4720	DPSC-M	E.F.	=	122	+	(	0.0161	X	\$
5110	DPSC-M	E.F.	=	122	+	(	0.1600	X	\$
5315	DPSC-M	E.F.	=	122	+	(	0.0500	X	\$
5330	DPSC-M	E.F.	=	122	+	(	0.0002	X	\$
5930	DPSC-M	E.F.	=	122	+	(	0.0000	X	\$
5935	DPSC-M	E.F.	=	122	+	(	0.0064	X	\$
5945	DPSC-M	E.F.	=	122	+	(	0.0000	X	\$
5999	DPSC-M	E.F.	=	122	+	(	0.1946	X	\$
6130	DPSC-M	E.F.	=	122	+	(	0.0014	X	\$
6140	DPSC-M	E.F.	=	122	+	(	0.0044	X	\$
6230	DPSC-M	E.F.	=	122	+	(	0.0001	X	\$
6240	DPSC-M	E.F.	=	122	+	(	0.0051	X	\$
6505	DPSC-M	E.F.	=	123	+	(	0.0020	X	\$
6508	DPSC-M	E.F.	=	122	+	(	0.0005	X	\$
6510	DPSC-M	E.F.	=	123	+	(	0.0010	X	\$
6515	DPSC-M	E.F.	=	123	+	(	0.0028	X	\$
6520	DPSC-M	E.F.	=	121	+	(	0.0007	X	\$
6525	DPSC-M	E.F.	=	121	+	(	0.0014	X	\$
6530	DPSC-M	E.F.	=	121	+	(	0.0012	X	\$
6532	DPSC-M	E.F.	=	120	+	(	0.0006	X	\$
6540	DPSC-M	E.F.	=	121	+	(	0.0021	X	\$
6545	DPSC-M	E.F.	=	122	+	(	0.0042	X	\$
6550	DPSC-M	E.F.	=	123	+	(	0.0014	X	\$
6630	DPSC-M	E.F.	=	121	+	(	0.0759	X	\$
6640	DPSC-M	E.F.	=	123	+	(	0.0007	X	\$
6650	DPSC-M	E.F.	=	122	+	(	0.0000	X	\$
6665	DPSC-M	E.F.	=	122	+	(	0.0019	X	\$
6670	DPSC-M	E.F.	=	122	+	(	0.0000	X	\$
6680	DPSC-M	E.F.	=	122	+	(	0.0063	X	\$
6810	DPSC-M	E.F.	=	122	+	(	0.0002	X	\$
6830	DPSC-M	E.F.	=	122	+	(	0.0001	X	\$
6840	DPSC-M	E.F.	=	122	+	(	0.0000	X	\$
6850	DPSC-M	E.F.	=	122	+	(	0.0001	X	\$

FSC	Center	Evaluation Factor per Ship ROD	=	Admin Cost	+	(Proportion	X	Proposed Contract Value	)
---	-----	-----		----		-----			
7210	DPSC-M	E.F.	=	122	+	(	0.0242	X	\$ _____ )
7360	DPSC-M	E.F.	=	122	+	(	0.0000	X	\$ _____ )
7530	DPSC-M	E.F.	=	122	+	(	0.0002	X	\$ _____ )
7610	DPSC-M	E.F.	=	122	+	(	0.0288	X	\$ _____ )
7690	DPSC-M	E.F.	=	122	+	(	0.0042	X	\$ _____ )
7930	DPSC-M	E.F.	=	122	+	(	0.0014	X	\$ _____ )
8105	DPSC-M	E.F.	=	122	+	(	0.0008	X	\$ _____ )
8110	DPSC-M	E.F.	=	122	+	(	0.0037	X	\$ _____ )
8115	DPSC-M	E.F.	=	122	+	(	0.0013	X	\$ _____ )
8430	DPSC-M	E.F.	=	122	+	(	0.0001	X	\$ _____ )
8465	DPSC-M	E.F.	=	122	+	(	0.0017	X	\$ _____ )
8540	DPSC-M	E.F.	=	122	+	(	0.0001	X	\$ _____ )
9320	DPSC-M	E.F.	=	122	+	(	0.0008	X	\$ _____ )

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE May 1996	3. REPORT TYPE AND DATES COVERED		
4. TITLE AND SUBTITLE  Cost of Reports of Discrepancy Update		5. FUNDING NUMBERS		
6. AUTHOR(S)  Mr. John McKinney				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Defense Logistics Agency Operations Research Office (DORO) P.O. Box 66422 Chicago, IL 60666-0422		8. PERFORMING ORGANIZATION REPORT NUMBER  DLA-96-P50094		
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Defense Logistics Agency 8725 John J. Kingman Road Suite 2533 Fort Belvoir, VA 22060-6221		10. SPONSORING / MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT		12b. DISTRIBUTION CODE		
13. ABSTRACT (Maximum 200 words) This study updates the DORO report titled Administrative and Holding Cost Resulting from Processing Reports of Discrepancy (DLA-90-P90136). Reports of Discrepancy (RODs) are generated when shipments within the DoD supply system have been improperly packaged or shipped. RODs in this study were caused by the contractor or sub-contractor. The primary costs considered in this study are administrative costs for personnel involved in RODs processing and holding costs for items in suspended status during resolution of the ROD. Personnel costs were estimated by using probabilities of involvement for Quality Assurance, Contracting and Production, etc. One major finding of this study was that the Defense Contract Management Command (DCMC) is involved in ROD resolution far less than was originally believed. Expected DCMC costs are, therefore, much lower in this update. Final costs found in this contractor's ROD history with these cost estimates gives a more accurate "cost" of doing business with individual contractors.				
14. SUBJECT TERMS  Reports of Discrepancy (RODs), holding costs, supply centers.			15. NUMBER OF PAGES 50	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT  UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE  UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT  UNCLASSIFIED	20. LIMITATION OF ABSTRACT	